

claims

1. A recombinant protein having an anti-cancer effect, which is one selected from the group consisting of:

5 1) a protein having the amino acid sequence of SEQ ID No:2 shown in the sequence listing;

 2) a protein derived from SEQ ID No:2, which has a sequence homology of more than 90% with SEQ ID No:2 and which has the same activity as that of SEQ ID No:2;

10 3) a protein derived from SEQ ID No:2, which is obtained by adding or deleting 15 or less amino acid residues at the N-terminus of the amino acid sequence of SEQ ID No:2, and which has the same activity as that of SEQ ID No:2;

 4) a protein derived from SEQ ID No:2, which is obtained by
15 adding or deleting 15 or less amino acid residues at the C-terminus of the amino acid sequence of SEQ ID No:2, and which has the same activity as that of SEQ ID No:2;

 5) a protein derived from SEQ ID No:2, which is obtained by substitution, deletion, or addition of one or several amino acid
20 residues in the amino acid sequence of SEQ ID No:2, and which has the same activity as that of SEQ ID No:2.

2. The protein according to Claim 1, characterized in that said protein is SEQ ID No:2 shown in the sequence listing.

3. A gene encoding a recombinant protein having an anti-cancer
25 effect, which gene is one selected from the group consisting of:

 1) SEQ ID No:1 shown in the sequence listing;

 2) a polynucleotide encoding the amino acid sequence of SEQ ID No:2 shown in the sequence listing;

 3) a DNA sequence which has more than 90% sequence
30 homology with the DNA sequence defined by SEQ ID No:1 shown in the sequence listing and which encodes a protein having the same activity as that of a protein encoded by SEQ ID No:1;

4) a DNA sequence encoding a protein derived from SEQ ID No:2, wherein said protein derived from SEQ ID No:2 is obtained by adding or deleting 15 or less amino acid residues at the N-terminus of the amino acid sequence of SEQ ID No:2, and has the same
5 activity as that of SEQ ID No:2;

5) a DNA sequence encoding a protein derived from SEQ ID No:2, wherein said protein derived from SEQ ID No:2 is obtained by adding or deleting 15 or less amino acid residues at the C-terminus of the amino acid sequence of SEQ ID No:2, and has the same
10 activity as that of SEQ ID No:2;

6) a DNA sequence encoding a protein derived from SEQ ID No:2, wherein said protein derived from SEQ ID No:2 is obtained by substitution, deletion, or addition of one or several amino acid residues in the amino acid sequence of SEQ ID No:2, and has the
15 same activity as that of SEQ ID No:2.

4. The gene according to Claim 3, characterized in that said gene is SEQ ID No:1 shown in the sequence listing.

5. A medicament for treating cancers comprising the recombinant protein according to Claim 1 as the active ingredient.

20 6. The medicament according to Claim 5, characterized in that said protein is SEQ ID No:2 shown in the sequence listing.

7. The medicament according to Claim 5 or 6, characterized in that said medicament further comprises a pharmaceutically acceptable carrier which is acceptable to a human.

25 8. An expression vector comprising the gene according to Claim 4.

9. A cell line comprising containing the gene according to Claim 4.

10. Use of the recombinant protein according to Claim 1 in the preparation of a medicament for treating cancers.

11. Use of the recombinant protein according to Claim 2 in the
30 preparation of a medicament for treating cancers.